



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,579	04/09/2007	Alexei Stanco	LP-02-028	9671

7590
Francis Law Group
1942 Embarcadero
Oakland, CA 94606

EXAMINER

DANIELS, ANTHONY J

ART UNIT	PAPER NUMBER
----------	--------------

2622

MAIL DATE	DELIVERY MODE
-----------	---------------

04/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,579	Applicant(s) STANCO ET AL.	
	Examiner ANTHONY J. DANIELS	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly et al. (US # 7,443,431) in view of Noda (US # 7,283,163).

As to claim 1, Kelly et al. teaches an apparatus for the measurement of a spectrum (Figure 1), comprising; a sensor array including a plurality of individual detectors (Figure 1, sensor "10"), each of said plurality of detectors producing a signal dependent on the amount of

Art Unit: 2622

light measured by said detectors (Col. 2, Lines 15-18); a database including a dark signal measured by the sensor array when no light has fallen on said detectors (Col. 2, Lines 36-54); a temperature-measuring device adapted to measure the temperature of said array, said database including said dark signal for said sensor array measured at several different temperatures (Col. 2, Lines 36-52, "...0 deg. – 60 deg..."); a time calculating device adapted to measure exposure time, said database including said dark signal for each of said plurality of detectors measured at several different exposure times (Col. 2, Lines 36-52, "...1/250 sec. – 8 sec..."); and a signal correction device that reduces the signal measured by each of said plurality of detectors by the dark signal to produce a corrected signal for said detectors (Col. 2, Lines 58-62). Although it is not stated explicitly in Kelly et al., the examiner takes **Official Notice** that the concept of using CCD arrays rather CMOS arrays in imaging apparatuses is well known and expected in the art. One of ordinary skill in the art would have been motivated to use a CCD array in the system of Kelly et al., because CCD arrays are less susceptible to noise than CMOS arrays. The claim further differs from Kelly et al. in that it further requires that database includes a dark signal for a plurality of temperatures and exposure times for the individual detectors of the sensor array.

In the same field of endeavor, Noda teaches an image processing apparatus providing noise correction wherein a database of fixed pattern noise correction data is provided for each pixel of an imaging array (Col. 7, Lines 11-31). In light of the teaching of Noda, it would have been obvious to one of ordinary skill in the art to provide the database of fixed pattern noise correction table for individual pixels of the sensor array of Kelly et al., because this would allow the correction to be done for specific pixels; thus, allowing for a high quality correction.

Art Unit: 2622

As to claim 2, Kelly et al., teaches a method of correcting the signal of each detector in a sensor array (Figure 1 and Figure 2) measuring a light distribution across the array (Col. 2, Lines 53-55), said method comprising the steps of: measuring a dark signal of the sensor array when no light is falling onto said detector (Col. 2, Lines 53-55) and storing said dark signal in a database (Col. 2, Lines 36-52); measuring a light signal of each detector with light falling onto said array (Col. 2, Lines 54 and 55); and removing said dark signal for each detector from the measured light signal to provide a corrected spectrum (Col. 2, Lines 58-62). Although it is not stated explicitly in Kelly et al., the examiner takes **Official Notice** that the concept of using CCD arrays rather CMOS arrays in imaging apparatuses is well known and expected in the art. One of ordinary skill in the art would have been motivated to use a CCD array in the system of Kelly et al., because CCD arrays are less susceptible to noise than CMOS arrays. The claim further differs from Kelly et al. in that it further requires that database includes a dark signal measured for the individual detectors of the sensor array.

In the same field of endeavor, Noda teaches an image processing apparatus providing noise correction wherein a database of fixed pattern noise correction data is provided for each pixel of an imaging array (Col. 7, Lines 11-31). In light of the teaching of Noda, it would have been obvious to one of ordinary skill in the art to provide the database of fixed pattern noise correction table for individual pixels of the sensor array of Kelly et al., because this would allow the correction to be done for specific pixels; thus, allowing for a high quality correction.

As to claim 3, Kelly et al., as modified by Noda, teaches the method of correcting the signal of each detector in a CCD array as in claim 2, wherein said method further includes the steps of: (a) measuring said dark signal of each detector at a first temperature; (b) storing said

Art Unit: 2622

dark signal for each detector for said first temperature in a database; (c) varying the temperature of said array to a second temperature; and (d) repeating steps (a) to (c) for a plurality of different temperatures (see Kelly et al., Col. 2).

As to claim 4, Kelly et al., as modified by Noda, teaches the method of correcting the signal of each detector in a CCD array as in claim 3, wherein said method further includes the steps of: measuring said temperature of the array when measuring a light distribution; recalling said dark signal for each detector stored in said database representative of said measured temperature; and subtracting said recalled dark signal from said database for each detector from said measured signal of each detector (see Kelly et al., Col. 2, Lines 58-62).

As to claim 5, Kelly et al., as modified by Noda, teaches the method of correcting the signal of each detector in a CCD array as in claim 2, wherein said method further include the step of taking said dark signal measurement over a pre-determined period of time (see Kelly et al., Col. 2, Lines 26-52; {The FPN calibration is performed over a certain period of time determined before correction.})).

As to claim 6, Kelly et al., as modified by Noda, teaches the method of correcting the signal of each detector in a CCD array as in claim 3. Although it is not stated explicitly in Kelly et al., the examiner takes Official Notice that concept of providing an on-board memory on a CCD chip is well known and expected in the art. One of ordinary skill in the art would have been motivated to do this, because this would allow for a minimization of space for the sensor; thereby, providing a more compact device.

As to claim 7, Kelly et al., as modified by Noda, teaches the method of correcting the signal of each detector in a CCD array as in claim 3, wherein said dark signal stored in said

Art Unit: 2622

database is an average of a plurality of dark signals measured over said time and temperature (see Kelly et al., Col. 2, Lines 56 and 57).

As to claim 8, Kelly et al., as modified by Noda, teaches the method of correcting the signal of each detector in a CCD array as in claim 3, wherein said database is provided on a flash memory or the like (see Noda, Col. 13, Lines 57-65). Although Noda, does not explicitly disclose that the database is provided on CD. However, the examiner takes Official Notice that utilizing a CD to store information is well known and expected in the art. One of ordinary skill in the art would have been motivated to use a CD to store the database of Noda, because this would allow for a cheap, effective way to store the FPN data.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. DANIELS whose telephone number is (571)272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD

3/29/2009

/Sinh N Tran/

Supervisory Patent Examiner, Art Unit 2622